

## Solid-state Relay

## G3TA

### I/O SSR Mounted to OMRON's G7TC I/O Block

- Input and output modules are available in wide variety.
- Snaps easily into P7TF I/O Terminals and can be used together with G7T I/O relays.
- Operation of each SSR can be monitored easily through an LED indicator.
- Approved by UL and CSA.



## Ordering Information

### Input Module

Isolation	Indicator	Logic level		Rated input voltage	Model
		Supply voltage	Supply current		
Photocoupler	Yes	4 to 32 VDC	25 mA	100 to 240 VAC	G3TA-IAZR02S-US
	No			5 to 24 VDC	G3TA-IDZR02S-US
				4 to 24 VDC	G3TA-IDZR02SM-US

### Output Module

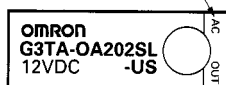
Isolation	Zero cross function	Indicator	Rated output load (applicable output load)	Rated input voltage	Model
Phototriac	Yes	Yes	2 A at 100 to 240 VAC (2 A at 75 to 264 VAC)	12 VDC	G3TA-OA202SZ-US
				24 VDC	
	No			12 VDC	G3TA-OA202SL-US
				24 VDC	
Photocoupler	---		2 A at 5 to 48 VDC (2 A at 4 to 60 VDC)	12 VDC	G3TA-ODX02S-US
				24 VDC	
			1 A at 48 to 200 VDC (1 A at 40 to 200 VDC)	12 VDC	G3TA-OD201S-US
				24 VDC	

### I/O Indication

I/O module classification and AC/DC use are indicated on the mark affixed to the top of the product.

Mark indication	Specification
AC IN	Input module, AC input
DC IN	Input module, DC input
AC OUT	Output module, AC output
DC OUT	Output module, DC output

Mark attached to the top of product



## ■ Accessories (Order Separately)

### Connecting Socket

I/O classification	Rated voltage	Model
Input (NPN, – common)	12 VDC	P7TF-IS16
	24 VDC	
	100/110 VDC	
	100/110 VAC	
	200/220 VAC	
Output (NPN, + common)	12 VDC	P7TF-OS16
	24 VDC	
Output (PNP, – common)	12 VDC	P7TF-OS16-1
	24 VDC	
Output (NPN, + common)	12 VDC	P7TF-OS08
	24 VDC	
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## Specifications

### ■ Ratings

#### Input Module

##### Input

Model	Rated voltage	Operating voltage	Input current	Voltage level	
				Must operate voltage	Must release voltage
G3TA-IAZR02S-US	100 to 240 VAC	80 to 264 VDC	5 mA max.	80 VAC max.	10 VAC min.
G3TA-IDZR02S-US	5 to 24 VDC	4 to 32 VDC		4 VDC max.	1 VDC min.
G3TA-IDZR02SM-US	4 to 24 VDC	3 to 32 VDC		3 VDC max.	

##### Output

Model	Logic level supply voltage	Output breakdown voltage	Output current	Output current (load current)
G3TA-IAZR02S-US	4 to 32 VDC	32 VDC max.	25 mA max.	0.1 to 25 mA
G3TA-IDZR02S-US				
G3TA-IDZR02SM-US				

#### Output Module

##### Input

Model	Rated voltage	Operating voltage	Input impedance	Voltage level	
				Must operate voltage	Must release voltage
G3TA-OA202SZ-US	12 VDC	9.6 to 13.2 VDC	0.9 kΩ±20%	9.6 VDC max.	2 VDC min.
	24 VDC	19.2 to 26.4 VDC	1.7 kΩ±20%	19.2 VDC max.	
G3TA-OA202SL-US	12 VDC	9.6 to 13.2 VDC	0.9 kΩ±20%	9.6 VDC max.	
	24 VDC	19.2 to 26.4 VDC	1.7 kΩ±20%	19.2 VDC max.	
G3TA-ODX02S-US	12 VDC	9.6 to 13.2 VDC	3.5 kΩ±20%	9.6 VDC max.	
	24 VDC	19.2 to 26.4 VDC	6.5 kΩ±20%	19.2 VDC max.	
G3TA-OD201S-US	12 VDC	9.6 to 13.2 VDC	3.6 kΩ±20%	9.6 VDC max.	
	24 VDC	19.2 to 26.4 VDC	6.4 kΩ±20%	19.2 VDC max.	

## Output

Model	Applicable load			
	Rated load voltage	Load voltage	Load current (see note)	Inrush current
G3TA-OA202SZ-US	100 to 240 VAC	75 to 264 VAC	0.05 to 2 A	30 A (60 Hz, 1 cycle)
G3TA-OA202SL-US	100 to 240 VAC	75 to 264 VAC		
G3TA-ODX02S-US	5 to 48 VDC	4 to 60 VDC	0.01 to 2 A	12 A (10 ms)
G3TA-OD201S-US	48 to 200 VDC	40 to 200 VDC	0.01 to 1 A	6 A (10 ms)

Note: The minimum current value is measured at 10°C min.

## ■ Characteristics

### Input Module

Item	G3TA-IAZR02S-US	G3TA-IDZR02S-US	G3TA-IDZR02SM-US
Operate time	20 ms max.	0.5 ms max.	
Release time	20 ms max.	0.5 ms max.	
Output ON voltage drop	1.6 V max.		
Leakage current	5 μA max.		
Insulation resistance	100 MΩ min. (at 500 VDC)		
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min between input and output		
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude		
Shock resistance	Malfunction: 1,000 m/s <sup>2</sup>		
Ambient temperature	Operating: -30°C to 80°C (with no icing or condensation) Storage: -30°C to 100°C (with no icing or condensation)		
Ambient humidity	Operating: 45% to 85%		
Approved standards	UL508 file No. E64562/CSA C22.2 (No. 0, No. 14) file No. LR35535		
Weight	Approx. 16 g		

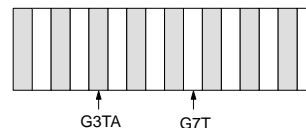
### Output Module

Item	G3TA-OA202SZ-US	G3TA-OA202SL-US	G3TA-ODX02S-US	G3TA-OD201S-US
Operate time	1/2 of load power source cycle + 1 ms max.	1 ms max.	0.5 ms max.	2 ms max.
Release time	1/2 of load power source cycle + 1 ms max.		2 ms max.	2 ms max.
Output ON voltage drop	1.6 V max.			2.5 V max.
Leakage current	5 mA max. (at 200 VAC)		1 mA max.	
Insulation resistance	100 MΩ min. (at 500 VDC)			
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min between input and output			
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude			
Shock resistance	Malfunction: 1,000 m/s <sup>2</sup>			
Ambient temperature	Operating: -30°C to 80°C (with no icing or condensation) Storage: -30°C to 100°C (with no icing or condensation)			
Ambient humidity	Operating: 45% to 85%			
Approved standards	UL508 file No. E64562, CSA C22.2 (No. 14) file No. LR3553			
Weight	Approx. 23 g			

With up to four G3TA SSRs mounted before G7T Relays, switching is possible at the rated load current for each Relay.



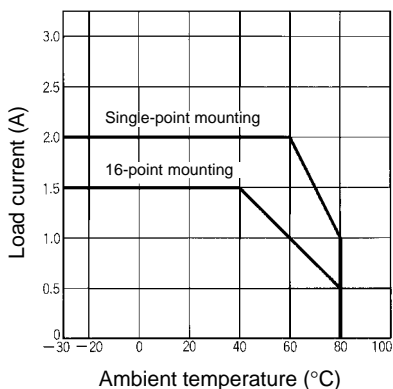
With G3TA SSRs mounted before every other G7T Relays, switching is possible at the rated load current for each Relay.



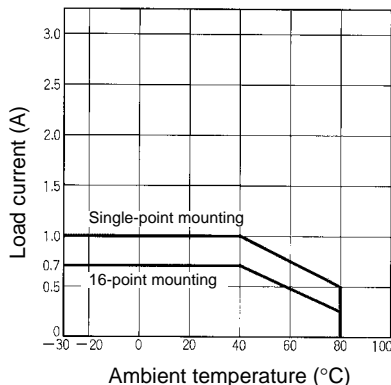
# Engineering Data

## Load Current vs. Ambient Temperature Characteristics

G3TA-OA202SZ/OA202SL/ODX02S-US



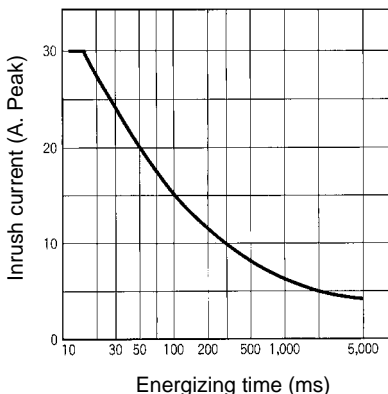
G3TA-OD201S-US



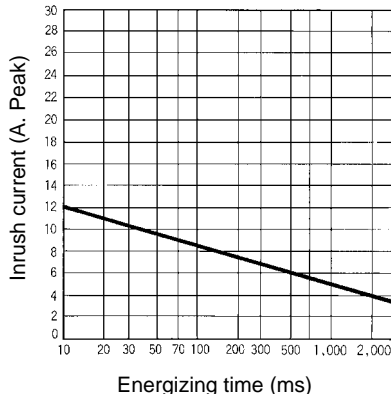
## Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

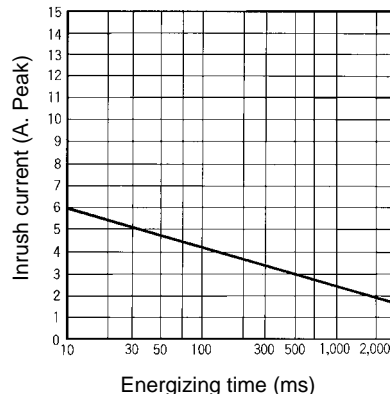
G3TA-OA202SZ/OA202SL-US



G3TA-ODX02S-US



G3TA-OD201S-US



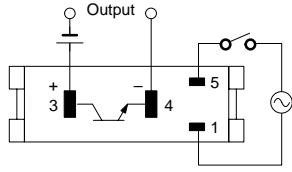
# Operation

## ■ Circuit Configuration

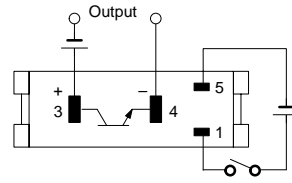
Type	Model	Case color	Indicator	Circuit
AC output	G3TA-OA202SZ (with zero cross function)	Black	Yes	
	G3TA-OA202SL (without zero cross function)			
DC output	G3TA-ODX02S G3TA-OD201S	Black	Yes	
AC input	G3TA-IAZR02S	Red	Yes	
DC input	G3TA-IDZR02S	Green	Yes	
	G3TA-IDZR02SM		No	

■ External Connections (Bottom View)

G3TA-IAZR02S

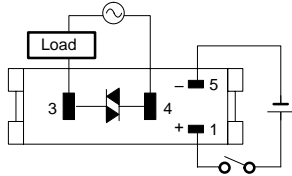


G3TA-IDZR02S/IDZR02SM



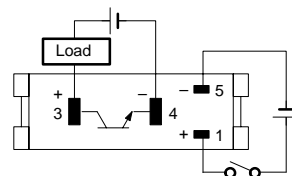
G3TA-OA

Load power supply



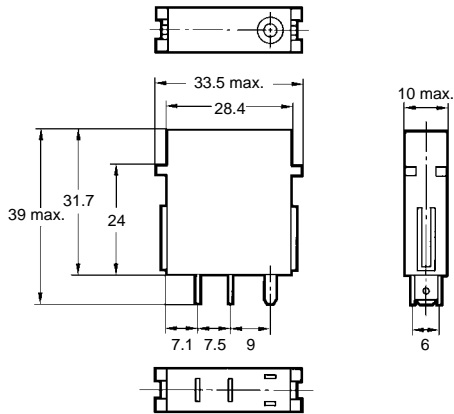
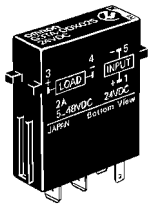
G3TA-OD

Load power supply



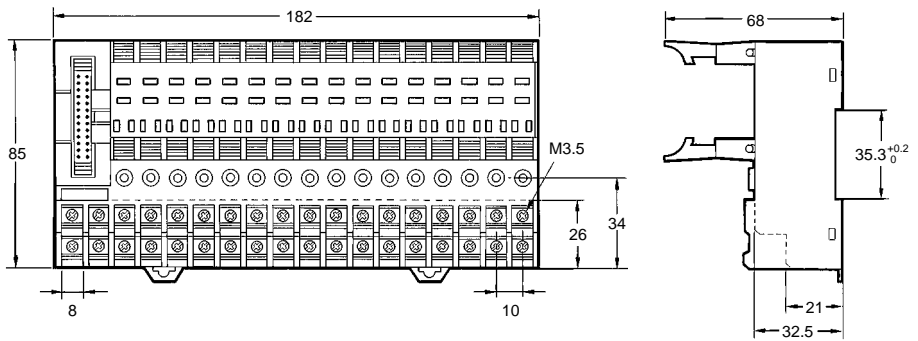
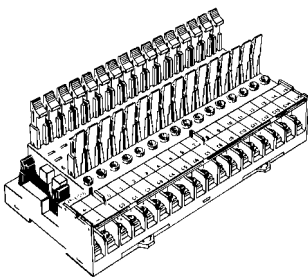
Dimensions

Note: All units are in millimeters unless otherwise indicated.

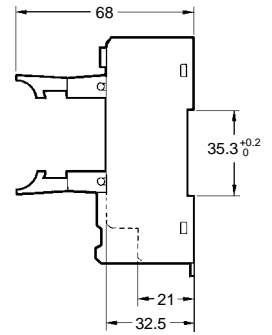
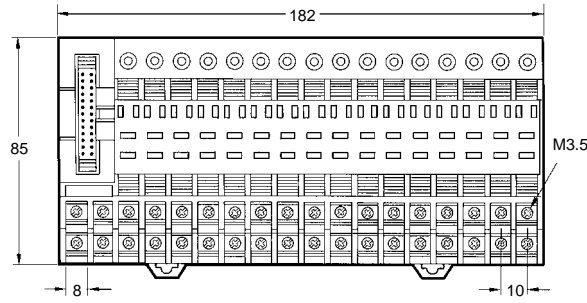
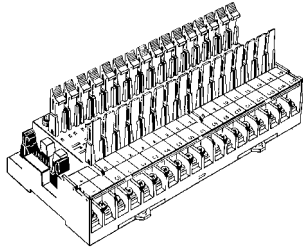


Connecting Socket

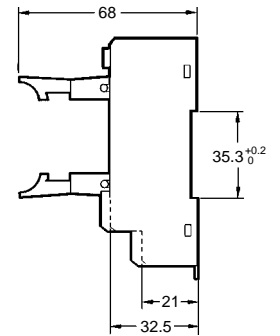
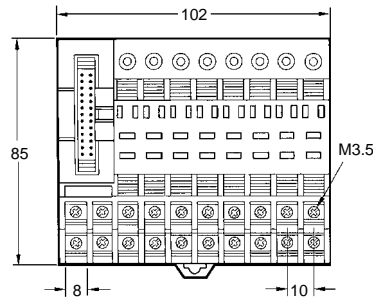
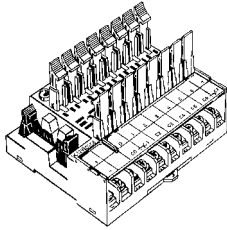
For Input (NPN, - Common)  
P7TF-IS16



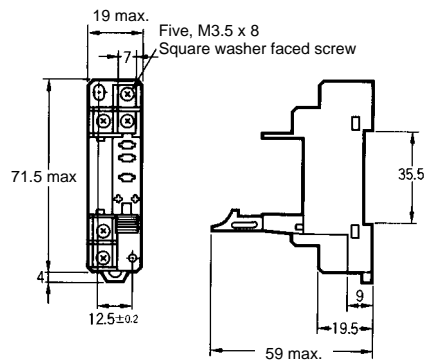
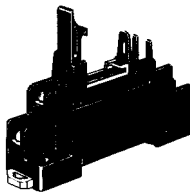
For Output (NPN, + Common)  
P7TF-OS16



For Output (PNP, + Common)  
P7TF-OS08



P7TF-O5



## Precautions

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Refer to pages 11 to 19 for general precautions.

### Connection

With the SSR for DC switching, the load can be connected to either positive or negative output terminal of the SSR.

### Protective Component

Since the SSR does not incorporate an overvoltage absorption component, be sure to connect an overvoltage absorption component when using the SSR under an inductive load.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.